

## **REMARKS**

Claims 1 to 4 are pending in the present application. Applicants respectfully submit that the pending claims are patentable for the following reasons and reconsideration is respectfully requested.

### **I. Objection to the Drawings**

The Office Action objects to the drawings under 37 C.F.R. §1.84(a). The Office Action alleges that the drawings appear to be color photographs and that any color photographs submitted in an application should be accompanied by a petition and an appropriate fee set forth in 37 C.F.R. §1.17(h)

Applicants herewith submit new, non-color drawings in the above-identified case. Applicants respectfully submit that the replacement sheet drawings are in conformance with all drawing requirements. Applicants respectfully request withdrawal of the objection to the drawings.

### **II. Rejection of Claims 1 to 4 Under 35 U.S.C. § 112, First Paragraph**

Claims 1 to 4 were rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enablement requirement. The Office Action alleges that the claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains to make and/or use the invention.

The Office Action states that claim 1 provides the steps of “positioning the lock fingers to a position below divots in the guide thimble in the fuel assembly to be engaged”. Claim 1 also provides for the feature of “engaging the lock finger tabs into the divots to an extended position.” The Office Action states that there is not an adequate or enabling disclosure as to how and in what manner the lock finger tabs can be engaged into the divots in step 6, when these fingers are positioned below the divots in step 6.

Applicants have amended claim 1 to obviate the rejection. Claim 1 has been amended to recite the steps positioning the lock fingers to a position in front of divots of the guide thimble in the fuel assembly to be engaged, engaging lock finger tabs into divots of the guide thimble to an extended

position; and lifting the fuel assembly and the tool, wherein structural load of the lifted fuel assembly passes to the tool during the lifting of the fuel assembly through the lock fingers positioned in the divots of the guide thimble. Support for the amendment to claim 1 is found, for example, on page 2, lines 15 and 16 and on page 4, lines 15 and 16 as well as page 6, lines 14 and 15.

Through the amendment to claim 1, applicants respectfully submit that claim 1 does not require the feature of positioning the lock fingers to a position below divots that was alleged to fail to comply with the enablement requirement. Applicants respectfully submit that as claim 1 does not require such a feature, the rejection should be withdrawn.

Applicants also respectfully submit that amended claim 1 requires the step of "lifting the fuel assembly and the tool, wherein structural load of the lifted fuel assembly passes to the tool during the lifting of the fuel assembly through the lock fingers positioned in the divots of the guide thimble."

Applicants have specified in amended claim 1 that the structural load path passes to the tool during lifting of the fuel assembly, thereby obviating the rejection. Applicants respectfully request withdrawal of this rejection to claim 1.

### **III. Rejection of Claims 1 to 4 Under 35 U.S.C. § 112, Second Paragraph**

Claims 1 to 4 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly failing to point out and distinctly claim the subject matter which the applicants regard as the invention. Applicants respectfully submit that claims 1 to 4 are consistent with the requirements of 35 U.S.C. § 112, second paragraph for the following reasons.

Claim 1 was rejected in the Office Action as the limitations of "alignment pins", "shaft", "lower lock fingers", "divots" and "finger tabs" present in claim 1 did not have proper antecedent basis. Claim 4 was rejected in that the limitation of "mandrel shaft" in line 2 allegedly does not have proper antecedent basis.

Applicants respectfully submit that the first recitation of the feature "alignment pins" in claim 1 is as "lowering the tool onto the top of the fuel

assembly such that at least two alignment pins engage the top nozzle of the fuel assembly". Applicants respectfully submit that this recitation clearly does not recite the feature of "the" alignment pins and therefore the feature of at least two alignment pins has sufficient antecedent basis.

Applicants respectfully submit that the first recitation of the feature of a "shaft" is provided in the claim phrase "actuating a shaft to lower lock fingers into the guide thimbles of the fuel assembly". As provided above, the feature of "a" shaft is provided. Applicants respectfully request withdrawal of this rejection as this feature has proper antecedent basis.

Applicants respectfully submit that the first recitation of the feature of "lower lock fingers" is provided in the step of "actuating a shaft to lower lock fingers into the guide thimbles of the fuel assembly." Applicants respectfully submit that this step requires that "a" shaft is actuated to lower "lock fingers" into the guide thimbles. In the claim, this is the first recitation of the feature of lock fingers, and therefore the feature of "lock fingers" has proper antecedent basis as the lock fingers are not preceded by the word "the". Applicants respectfully request withdrawal of the rejection.

Applicants respectfully submit that the first recitation of the feature of "divots" is provided in the amended claim 1 in the preamble describing a method of handling a pressurized water reactor fuel assembly that has a top nozzle and guide thimbles and divots. Applicants respectfully submit that amended claim 1 properly recites the feature of "divots" as the feature of "divots" is not preceded by the word "the" and that the feature has proper antecedent basis. Applicants respectfully request withdrawal of this rejection to claim 1.

Applicants respectfully submit that the first recitation of the feature of "finger tabs" is "engaging lock finger tabs into the divots of the guide thimble to an extended position." Applicants respectfully submit that since the first recitation of the feature of finger tabs is as provided above, and the feature of "finger tabs" is not preceded by the word "the", this feature has proper antecedent basis. Applicants respectfully request withdrawal of this rejection.

Applicants respectfully submit that the first recitation of the feature of "mandrel shaft" in claim 4 is provided in the step of "actuating of the shaft to lower the lock fingers is performed by a mandrel shaft which allows a spring

tension to be applied to the lock fingers.” The word preceding the mandrel shaft “a” is proper as this is the first recitation of this feature. Applicants respectfully request withdrawal of this rejection as the feature of a “mandrel shaft” has proper antecedent basis.

#### **IV. Rejection of Claims 1 to 4 Under 35 U.S.C. §102(b)**

Claims 1 to 4 were rejected under 35 U.S.C. §102(b) as being anticipated by United States Patent Number 4,834,934 (“Salton et al. ”). Applicants respectfully submit that Salton et al. does not anticipate claims 1 to 4 for the following reasons.

As regards this anticipation rejection, to reject a claim as anticipated the Office must demonstrate that each and every claim feature is identically described or contained in a single prior art reference. (See, *Scips Clinic & Research Foundation v. Genentech, Inc.*, 18 U.S.P.Q.2d 101, 1010 (Fed. Cir. 1991)).

Amended claim 1 relates to a method of handling a pressurized water reactor fuel assembly which has a top nozzle and guide thimbles and divots, comprising: supporting a tool configured to handle the fuel assembly; positioning the tool over a top of the fuel assembly; lowering the tool onto the top of the fuel assembly such that at least two alignment pins engage the top nozzle of the fuel assembly; actuating a shaft to lower lock fingers into the guide thimbles of the fuel assembly; positioning the lock fingers to a position in front of divots of the guide thimble in the fuel assembly to be engaged; engaging lock finger tabs into the divots of the guide thimble to an extended position; and lifting the fuel assembly and the tool, wherein structural load of the lifted fuel assembly passes to the tool during the lifting of the fuel assembly through the lock fingers positioned in the divots of the guide thimble, the divots formed by swaging of the guide thimbles to guide thimble sleeves that attach a top nozzle of the fuel assembly to the guide thimbles.

Support for the amendment to claim 1 is found, for example, on page 2, lines 15 and 16 and on page 4, lines 15 and 16 as well as page 6, lines 14 and 15.

Salton et al. relates to a thimble grip fuel assembly handling tool. Title. Salton et al. provide a gripping member 49 which is placed around a vertical rod 56. The vertical rod 56 is connected to a lift plate 42 such that when the lift plate 42 is actuated by a lifting means, the vertical rod 56 is lifted in conjunction with the lift plate 42. Additionally, the gripping member 49 is connected to an actuating plate 45. When the lift plate 42 is raised with respect to the actuating plate, the vertical rod 56 is raised inside the gripping member 49. As illustrated in Salton et al. figure 2, a first frustoconical surface 59, connected to the vertical rod, is moved upward in relation to the gripping member 49. A deformable sleeve 64 then impacts both the first frustoconical surface 59 at the bottom and consequently impacts on beveled surface 85 the bottom most portion of the gripping member 49. Additional lifting of the lift plate 42 relative to the actuating plate 45 causes further deflection deformable sleeve 64. Salton et al. specifically describe that an "inside diameter" of the guide tubes 50 are grabbed. Col. 7, lines 46 to 51. To grab this "inside diameter", the gripping members are "fully inserted" within the fuel assembly. Col. 8, lines 63 to 67. After "fully inserted", the "full weight" of the fuel assembly is suspended from the tool 20. Col. 8, line 67 to 68. To achieve full insertion, the gripping members 49 are fully inserted within the control rod guide tube 50 "past the area where crimping has taken place.". As a result, the gripping members do not grab a dimpled area, but are instead fully inserted into the length of the guide tube. Salton et al., therefore, teach away from engaging the lock fingers into the divots to an extended position, rather Salton et al. are solely concerned with full insertion of the gripping members into the fuel assembly. To this end, Applicants have amended claim 1 to recite the feature of lifting the fuel assembly and the tool, wherein structural load of the lifted fuel assembly passes to the tool during the lifting of the fuel assembly through the lock fingers positioned in the divots of the guide thimble and have specified that the divots formed by swaging of the guide thimbles to guide thimble sleeves that attach a top nozzle of the fuel assembly to the guide thimbles. Salton et al. clearly do not disclose this configuration, as

provided above. Applicants respectfully request withdrawal of the rejection to claim 1.

Claims 2 to 4 depend from claim 1 and therefore include all of the features of claim 1. Applicants respectfully submit that claims 2 to 4 are patentable for at least the reasons provided above. Applicants respectfully request withdrawal of the rejection to claims 2 to 4.

**V. Conclusion**

In view of the foregoing, it is respectfully submitted that all pending claims of the present application are now in condition for allowance. Prompt reconsideration and allowance of the present application are therefore earnestly solicited.

Respectfully submitted,

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